1866-67
(L.B)

File No 1
Sls. 1–6

Works on the Agumbi Ghaut

Mysore Public Works Department,
Central Office,
Current Branch,
1866-67

No. 3058/404

From The Chief Engineer
Mysore.

To The Secretary to the
Commissioner of Mysore.

Dated
Despatched
Received

Enclosures No.

Subject

Your No. 2525/2955 dated 22nd ultimo —
with reference to Col. Orr's No. 375/2957
regarding the several Ghaut roads
in Hungur, submits for consideration
and instructions an Extract
from Capt. Palmer's Report No.
335/831 on the Anjumboy Ghaut,
and offers his Remarks with
reference to the other Roads.

Bangalore
Chief Engr. 10/10/66

No. 3058/404

Mysore Public Works Dept
Central Office
Current Branch.

From

Major R. A Sankey R.E
Chief Engineer of Mysore

To,

The Secretary to the Commissioner
for the Government of the Territories of
His Highness the Rajah of Mysore.
Dated the 9th October 1866.

Civil Works

Sir,

Adverting to your letter No. 3157/395 of the 24 Ultimo, forwarding copy of Colonel Orr's No. 375/2957 of the 14th idem., with annexures, having reference to the several Nugur Ghaut roads, I do myself the honor to submit for the Commissioner's consideration and instructions the accompanying Extract from the Executive Engineer's Report on the Angoomby Ghaut and in so doing to state that in the absence of a complete Estimate, I feel it would be out of place to pronounce a definite opinion regarding the proposal of the Collector of South Canara to widen the Ghaut to 7 yards and otherwise improve

* paras 2 & 3 of Capt. Palmer's No. 335/831 of 4th Oct. 1866

if Captain Palmer will now be requested to give his best attention to the preparation of the Estimates; but I am afraid that some delay will be experienced before they can be rendered in complete form.

2. Regarding the Coolow Ghaut Road already addressed the Commissioner in my No. $\frac{293}{386}$ of the 1st instant.

3. The improvement of the approaches to the Cadaul (Bhimd) Ghaut has received much consideration; and Estimates for raising the class of the through line from Chickmoglur and tracing it in parts new forms the chief duty of the Executive Engineer of the lately constituted Outdoor Division. If given the services of the Surveyor lately applied for, I should look for completed Estimates, for at least a considerable portion of the line, in time for the Budget.

4. It is almost needless for me to observe that ever since the superintendency of Captain le Hardy, the opening up of the Western talooks of Nagur have received the most anxious consideration and attention on the part of the Mysore Authorities; but partly from the extreme sparseness of the indigenous population, and the absolute horror

with

Extract from letter No. 335/831 dated 4th Oct 1866 from the Executive Engineer Shemogah Division to the Chief Engineer of Mysore.

× × ×

Para 2. Angoomby Ghaut. Some time since perceived the necessity for widening this ghaut and submitted an Estimate with the Budget for 1864/65 for widening it to 5 yards. The principal Expense was to be incurred in a cutting along the face of a Mass of Rock which has been and is still going on; but if it is intended that the full width proposed by the Collector North Canara should be observed throughout the Expense for this portion will be enormous. There will also be great difficulty in opening out to such a width at many other places, at the zigzags for instance, where the turns are in some places so sharp that a cutting to widen the lower part of a turn would encroach on the Roadway of the Upper portion.

3. Still there is no doubt that the Ghaut is capable of further improvement than I had contemplated when I submitted the last Estimate, and the turns can

all be widened easily so as to allow carts passing round a corner to do so on the level; but I would not recommend any further large expenditure on the rocky portion beyond almost to, it is almost impossible to calculate beforehand what such an operation would cost, and we might be committed to an expenditure of money which would hereafter be thought to be more than the necessity of the improvement would warrant.

x x x

(True Extract)

Major RE

Chief Engineer of Mysore

No. 426

Mysore Public Works Department,

No. 3460/454 Central Office,

Current Branch,

1866-64.

From The Chief Engineer of Mysore.

To The Secretary to the Commissioner of Mysore.

Dated 31st October 1866

Despatched

Received 3 Nov 1866

Enclosures No.

Subject

Replies to letter No. 3804/486 dated 12th Oct 1866 with reference to the Special Instructions suggested by Major Elliot for rendering the Augoorky Ghaut safe.—

Comm. 1/11/66

No. 88.

Forwarded with this office letter and of the rely of Major Elliot with information with reference to the No. 3704/57 dated 12th Oct 1866 and information of the letters dated 31st Oct 1866 to this address PWD. 42

3.11.66

No. 3460/454

Mysore Public Works Departt
Central Office

From,

Major R. H. Sankey R.E.
Chief Engineer of Mysore

To,

The Secretary to the Commissioner
for the Government of the Territories
of His Highness the Rajah of Mysore

Dated the 31st October 1866.

Sir,

In reply to your letter No. 3889/486 of
the 26th instant, I have the honor
to observe that as regards the special
provisions suggested by Major Elliot
in para IV of his No. 374/50 of the 11th
idem for rendering the Sugoombee
Ghaut safe, Captain Palmer has
already in his report submitted
to the Commissioner stated that
while there will be great difficulty
in opening out the Ghaut to the
requisite width at the zigzags
where on some places the turns
are so sharp that a cutting to
widen the lower part would unduly

encroach on the roadway of the upper portion) the Ghaut is still capable of further improvement and the turns can be widened easily so as to allow carts in passing round a corner to do so on a level.

2. Arrangements can I think be made for some such moderate improvement out of next Budget. as also for the better completion of the Anantapoor Sesthully line. and Captain Palmer shall receive instructions to provide for such.

3. If corresponding efforts be made by the Deputy Superintendent for carrying out at least a portion of the scheme of District roads from Plough Tax funds directed to in para V of Major Elliot's letter, I think it is as much as could be looked for with the wholly inadequate Establishment at disposal for tracing, Surveying, Estimating and Superviding works in progress. and with the many other drawbacks noticed in my previous Communication.

9

I have the honor to be
Sir
Your most Obed.t Serv.t
A. Rosenberg Major R.E
Chief Engineer of Mysore

Bangalore
31st October
1866

S
R-47

No. 4413

From 1866 W.D. 558

The Secretary

To The Chief Engineer

Dated

Despatched 15th Nov. 66

Received

S&4

Enclosures No. -

General No. 4413 } 1866-67
W.D. No. 558 }

Requests that letter No. 3889 dated 26th ultimo to Lt. Col. the Chief Engr. from this Office may be forwarded for reference. -

By order

Secretary

No 4502
MW 572

From 1866

To The Chief Engineer in Bryson

Dated 14th November.
Despatched
Received

Enclosures No. 1

General No 4502 } 1866–67.
MW No 572 }

Your No. 3786 dated 15th instant. 496

Returns the Secretary's letter No. 3889 dated 26th October 166. 486

17 11 66

"By Order"
Secretary

Aug 138.

copied by J. Dy

J
A-10

No 660.

Public Works Department
Central Office
Current Branch

Mr 29 64

1866/64

The Chief Engineer
of Mysore

& Secretary to the
Commissioner of
Mysore

Bangalore 24th February 1864

Sir

I have the honor to be
directed to forward for
information copy of
the Enclosures No one
to 19th inclusive on the
subject noted in the
margin hereof

4502 of 5-42

I am Sir
Your most obedient
Servant

Secretary

Subject
Number 1866 and
previous correspondence
relative to the widening
of the Sangamby Channel

With reference to
the above forwarded for
the Commissioner's
information copy of
this Office No 690 of
29

the 5th instant addressed to the Revd. Cuthbert Bright Shrewsbury enclosing a memo by the Chief Engineer after a personal inspection of the above Wharf.

13-2-67

Wharf at Bangor Capt. Ellis for Chief Engineer Inspection

Papers returned
12-2-67 8/2/67

Mysore Public Works Deptt.
Central Office

No. 690/629

Memorandum

26th January/67

I inspected the Augoombee ghaut today in Company with the Executive Engineer Captain Palmer whose charge, as will be observed from the annexed eye sketch, extends from the top to the 8th turn or about 2½ miles from the top.

2. The remaining 4 miles to the foot at Someshweram where the ghaut proper ceases is under the Madras Department Public Works.—

3. From the extremely precipitous nature of the upper or Mysore portion of the mountain face it has only been with the utmost difficulty and by blasting through a considerable portion of the line that the ghaut road has been carried down.—

4. The turns at the end of the short zigzags are every where brought up against the cliffs and although as I shall show further on, some slight extension of length and consequent flattening of gradient may yet be gained, the work must be extremely limited. The maximum gradient now being about 1 in 11 I think it might yet be possible to reduce this to 1 in 15 or 16, but more it does not seem to me, could well be promised without a vast

mostly disproportionable expenditure of means.
The gradients must all judged by difference of levels
between the top of the Ghaut and Some hundred
would be from 21 but much length is unavoidably
took up by flat portions above and below.
5. The Base is entirely the reverse, near the lower
or the Madras end of the Ghaut excepting in their
upper most Zigzag (the 5th) where the work is in
much the same as ours, and I may here be
permitted to observe that this character prevails
as a rule with all the Ghauts, the steep upper
portion in Mysore presenting difficulties wholly
unknown to the lower or Madras portions which
ascend mostly in earthhill side Cutting and
along the wide bases of the Spurs at foot
necessarily involving cattle labor and Establish-
and hence probably in readiness with which,
ignorant no doubt of this important physical
difference, the authorities on that side have pressed
pressed their Complaints. It will be seen as
I proceed that wherever the same difficulties
occur on the Madras side they have made less
effort than Myself to overcome them.

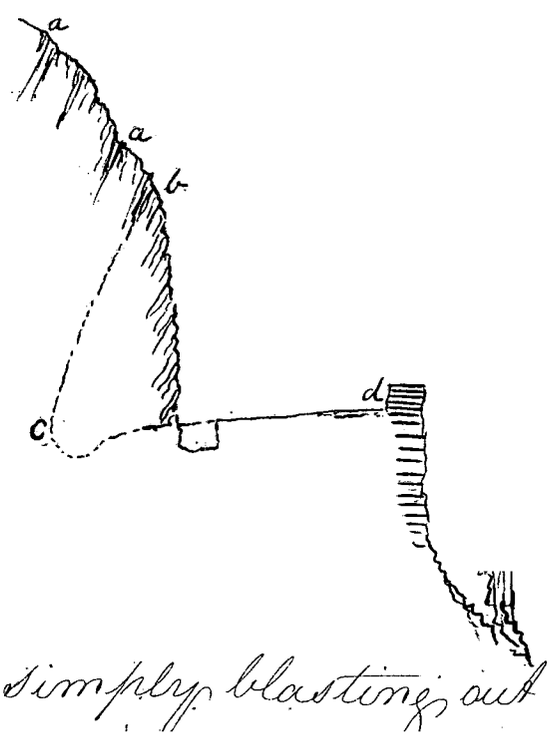
My object however being to show what
is actually now being done on the Mysore
side under the small Estimate sanctioned
for special works to the Ghaut amounting to
Rupees 7865, I shall now to note briefly in detail

the

the most prominent features as well as the points calling for immediate attention.—

7 Before coming to the 1st Mile Stone (considered the head of the ghaut and 56 Miles from Shemogah) a nicely executed laterite cross drain bridge has been nearly finished - and another further on — A third of 2 vents is about to be commenced a little in advance — The road along this portion past the police Shannah, and as far as the head of the 1st zigzag, calls for little remark — It is from 20 to 27 feet wide well formed and only requires to be metalled.—

8 Immediately on turning the corner of the 1st zigzag the breadth of the road is found for 30 or 40 feet to be only 10 and 11 feet wide — and for thence 100 yards in advance this, varies from 15 to 18 feet — Blasting is here vigorously going on as this is probably the worst portion of the line — The Cliff is composed of a ferruginous clay slate which, though soft on being first cut into, rapidly weathers out hard, and as the strike is downwards and inwards as b. C. in the annexed Sketch there would be no objection to simply blasting out the footing on the line



time instead of taking down the whole cliff some 30 feet and more in height. The latter taking away as much as at present is practically useless, and may thus be avoided. There is no possible danger of the rock falling although newly hanging, and at comparatively little outlay the breadth C. D. = 20 feet could be easily obtained.

7 Another matter is that steel stone picks now used in cutting out the footings for the breakwater would readily clear away the loose rock at the time of strike. 20 or 30 of these will now be supplied to the Executive Engineer for use instead of resorting every where to blasting. —

10 The turn at the end of the first zigzag can be improved as pointed out personally to Captain Palmer simply by carrying on the nose 12 feet and securing a little more back into the side. The second portion of the 1st zigzag is of good width: full 18 feet every where; the gradient fair and all it requires is a similar improvement to the turn at its end.

11 The first portion of the 2nd zigzag is also good and of full width excepting at the turn where some debris brought down by upper drainage requires to be cleared away and the nose lengthened. A small portion of the outer breastwork also needs to be carried out perpendicularly to gain width. The second portion of this zigzag is also in good

order.

order and of full width the turn at the end however requires improvement by blasting some of the rock at end and otherwise lengthening it— 20 feet in length could thus be easily gained.—

12. The first part of the 3rd " zigzag is more than the proper width, but the gradient 1 in 15 is objectionable, and from the existence of sheer cliffs at its upper and lower extremities it is to be feared that very little if any improvement is practicable The second portion is at commencement good in gradient, but lower down it is so steep as 1 in 12, and moreover for 30 yards is only 15 feet wide— The widening of the shaft to 18 feet here is of course practicable— and further I consider that nearly 100 feet in length could be gained by blasting out the cliff at the end thus flattening the objectionable gradient above— This with other similar work must however form portion of a separate Estimate

13. The drinking fountain at the end of this zigzag should be at once put in working order— and others of a similar description be placed at one or two more points on the shaft, water being much needed here for consolidating metalling— as well as for man and beast.—

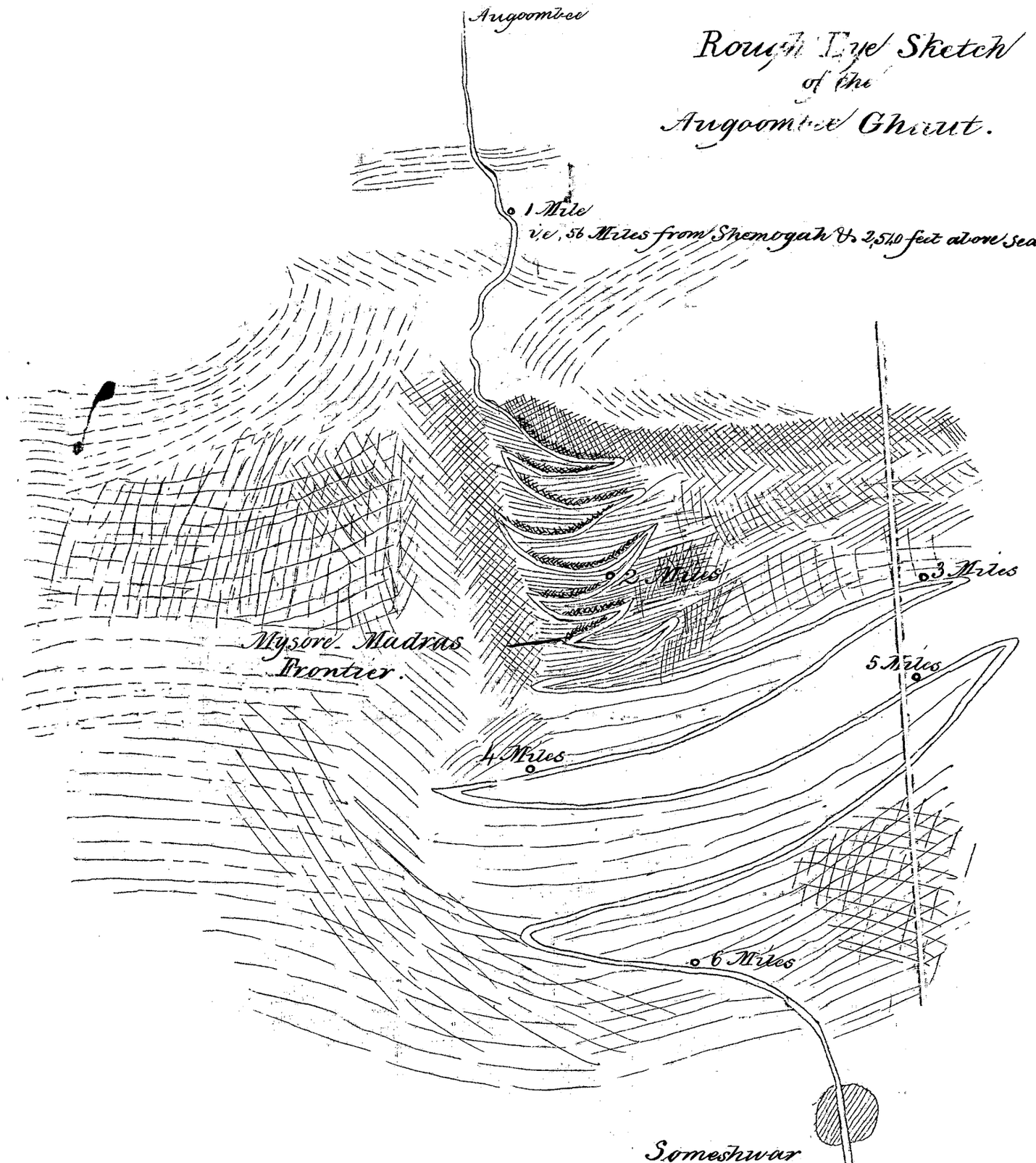
14. The 4th " and last Mysore zigzag is very narrow only 15 feet wide at the turn and the gradient 1 in 11 in one portion— Length and corresponding flattening of the

gradients can undoubtedly be gained in widening at the end, and carrying up the outer retainment perpendicularly as explained personally to Capt. Palmer. The width can also be increased to 18 feet but much of this must necessarily form part of the separate Estimates before adverted to — The second part of the Zigzag at the end of which is the boundary stone 14 and with turns right into the cliff, at the end little improvements can be effected..

15 The stone quarried along the route rapidly disintegrates under traffic, and the road surface is now both dusty and heavy. For Parel I consider that the Grant should be metalled with the above stone, hitherto broken in the full width as a sub-stratum and over this good laterite gravel procurable from above laid at least 3 inches in consolidated thickness — The maintenance allowance should also be raised from 1 Rupees 18 as at present to 1 Rupees 350 per mile, the amount given to the Munzerabad and Doondghaut.

16 On the lower portion of the 5th Zigzag ... Madras) the gradient is about 1 in 10. and in many other places objectionable. Wherever rock occurs inside cutting the road is always narrow and no attempts is apparently now being made to widen it — The road surface is moreover heavy and dusty, and the only party I saw

Rough Eye Sketch of the Angoomtee Ghaut.



[Signed]

W. Chrystie Captain R.E
Assistant Chief Engr for Chief Engr of Mysore.

Mysore P.W. Department
Contract office February
1867

Engrs' Branch Office
25th February 1867